

REMARKS

Claims 23, 28, 31, 34, 38, 42, and 45 are amended, no claims are canceled, and no claims are added; as a result, claims 23-47 remain pending in this application.

§112 Rejection of the Claims

Claims 23-47 were rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. The claims were rejected as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection states that, “There is no original disclosure relating to forming an integrated circuit. There is no original disclosure for an array of memory cells.” Applicant respectfully maintains one of ordinary skill in the art will appreciate that memory devices include memory cells and arrays of memory cells as included in Figure 1. Support for Applicant’s position is found on page 1, lines 11-12 of the specification where it is noted that embodiments of the invention incorporated into a memory device.

Further, it should be noted that, the test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, *rather than the presence or absence of literal support in the specification for the claim language*. (*In re Kaslow*, 707 F.2d 1366, 217 U.S.P.Q. 1089, 1096 (Fed. Cir. 1983) (emphasis added).) The *Kaslow* case echoes the rule in *In re Edwards*, which states,

To comply with the description requirement it is not necessary that the application describe the claimed invention in *ipsis verbis*

(*Id.*, 568 F.2d 1349, 196 U.S.P.Q. 465, 467 (C.C.P.A. 1978).) Similarly, The court in *In re Herschler* stated,

The claimed subject matter need not be described in *haec verba* to satisfy the description requirement. It is not necessary that the application describe the claim limitations exactly

(*Id.*, 591 F.2d 693, 200 U.S.P.Q. 711, 717 (C.C.P.A. 1979) (citations omitted).) Accordingly, analogous language appears in the MANUAL OF PATENT EXAMINING PROCEDURE (MPEP),

The subject matter of the claim need not be described literally (i.e. using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement.

(*Id.* at 2163.02.)

Because the specification reasonably conveys to an artisan that the inventor had possession of the claimed subject matter at the time of filing, Applicant submits that the claims are sufficient under 35 USC § 112, first paragraph. Reconsideration and withdrawal of the rejection is respectfully requested.

The rejection states that, “There is no original disclosure for the ‘normally on’ and ‘normally off’ limitations.” Support for “normally on” and “normally off” limitations can be found, in the specification generally, and specifically on page 5, lines 11-22 regarding logical low and logical high. Reconsideration and withdrawal of the rejection is respectfully requested.

The rejection further stated that “No sensing of what the voltage is at Vbb seems to present.” The rejection further states that, “It isn’t clear which terminal of the charge pump is a sensing terminal.” In light of the Examiner’s assumption that a “regulator” must include a sensing operation, Applicant has amended the claims from reciting a “voltage regulator” to reciting a “voltage level controller.” In at least some embodiments described in the specification, a sensing operation is not necessary. Reconsideration and withdrawal of the 35 USC § 112, first paragraph rejections is respectfully requested.

Claims 23-47 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The rejection states that, “There is nothing in the specification related to steps of forming. It is still not clear how the voltage regulator is coupled to the substrate. In claim 45 lines 7 and 8 it is not clear how a transistor can bypass a plurality of diodes.

Applicant respectfully submits that concurrent to teaching a physical or schematic structure of embodiments of the invention, it is inherent that the structure must be formed. Further, on page 8, lines 7-8 of the specification, it is noted that other embodiments could be constructed. Applicant respectfully submits that constructing is synonymous with forming. Reconsideration and withdrawal of the rejection is respectfully requested.

Applicant respectfully submits that “coupling” is definite under 35 USC § 112, second paragraph. Pursuant to MPEP § 2173.04, Applicant notes that “breadth of a claim is not to be equated with indefiniteness.” Examples of coupling elements of a voltage regulator include, but are not limited to, utilizing MOS fabrication techniques to form elements such as transistors or diodes as described in the specification. In a further example, a source/drain region of a MOS transistor formed by ion implantation is coupled to a substrate.

Regarding bypassing a plurality of diodes, Applicant respectfully submits that one of ordinary skill in the art will understand that a transistor can be configured in a circuit to bypass a single diode, or multiple diodes.

Regarding claims 26, 27, 29, 30, 32, 33, 36, 37, 40, 41, 43, 44, 46, and 47, Applicant refers to discussion above where support for the limitations “normally on” and “normally off” is noted. Regarding method limitations of forming a normally on or normally off transistor, Applicant submits that a hypothetical method step such as coupling a voltage to a gate that is normally below a threshold voltage and varying the gate voltage selectively above the threshold voltage would be one possible example of forming a normally off transistor. Applicant respectfully submits however that this level of detail is not required for definiteness under 35 USC § 112, second paragraph. Reconsideration and withdrawal of the rejection is respectfully requested.

§103 Rejection of the Claims

Claims 23-47 were rejected under 35 USC § 103(a) as being unpatentable over McLaury in view of Bynum et al. and Uchida.

The rejection states that, “McLaury shows apparatus for regulating substrate bias.” McLaury appears to show a diode series 10. The reference also appears to show a diode load

element 110. Embodiments of McLaury also appear to show a sense element as part of the integrated circuit. However, Applicant is unable to find reference to coupling at least one bypass transistor to at least one diode in the series of diodes for electrically bypassing at least one diode, wherein the at least one bypass transistor is adapted for selective actuation to both an on state and an off state by a user while setting a substrate voltage bias level.

In contrast, Applicant's independent claims, as amended, include coupling at least one bypass transistor to at least one diode or diode connected transistor in a series for electrically bypassing at least one diode or diode connected transistor, wherein the at least one bypass transistor is adapted for selective actuation to both an on state and an off state by a user while setting a substrate voltage bias level.

The rejection states that, "Bynum et al shows the concept of controlling the bias applied to a substrate by shunting or not shunting a diode in a line that applies a voltage to a substrate." Bynum appear to show an integrated circuit designed to bias an epitaxial well. Embodiments of Bynum appear to include a single diode 42. Bynum also appears to show a shunt path in embodiments using the diode. However, Applicant is unable to find reference to coupling at least one bypass transistor to at least one diode in the series of diodes for electrically bypassing at least one diode, wherein the at least one bypass transistor is adapted for selective actuation to both an on state and an off state by a user while setting a substrate voltage bias level. Applicant respectfully submits Bynum does not show a device that is controllable by a user. The shunt of Bynum is not selectively controlled (turned on or off as desired) by a user. Applicant respectfully submits that a shunt is a passive device that is not controlled by a user.

In contrast, Applicant's independent claims, as amended, include coupling at least one bypass transistor to at least one diode or diode connected transistor in a series for electrically bypassing at least one diode or diode connected transistor, wherein the at least one bypass transistor is adapted for selective actuation to both an on state and an off state by a user while setting a substrate voltage bias level.

The rejection states that Uchida shows "selective shunting of specific ones of diodes in a circuit having plural diodes." Uchida appears to show n diodes 123 connected in series to provide a fixed supply voltage (V_{cc}). The V_{cc} in Uchida is coupled to electrical devices directly, and not to the substrate to provide a back bias (V_{bb}) as described in Applicant's

specification. Uchida also appears to discuss an embodiment wherein a parallel circuit is set in a high impedance state at an initial stage and selectively set at a low impedance state at a programming stage. Applicant is unable to find reference to bypass transistors in Uchida.

Uchida does not show coupling at least one bypass transistor to at least one diode in the series of diodes for electrically bypassing at least one diode, wherein the at least one bypass transistor is adapted for **selective actuation to both an on state and an off state** by a user while setting a substrate voltage bias level. Uchida also does not couple a substrate voltage level controller circuit to a **substrate**. In column 9, line 11, Uchida discussed cutting fuses 126 with a laser. Applicant respectfully submits that this process is not reversible, and therefore the fuses 126 cannot be selectively actuated to both an on state and an off state. They can only be selectively cut.

In contrast, Applicant's independent claims, as amended, include coupling at least one bypass transistor to at least one diode or diode connected transistor in a series for electrically bypassing at least one diode or diode connected transistor, wherein the at least one bypass transistor is adapted for selective actuation to both an on state and an off state by a user while setting a substrate voltage bias level. Further in contrast, Applicant's independent claims include coupling a substrate voltage level controller circuit to a substrate.

Further, Applicant respectfully submits that there is no teaching in Uchida or McLaury or Bynum to combine the references as suggested in the present Office Action. For example, Uchida deals with a power supply. There is no motivation to use teachings of Uchida to bias a substrate. The Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002). The Office Action stated "it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the apparatus of McLaury to include a series string of diodes of Uchida selectively shunted by transistors as suggested by Bynum et al," which is a mere conclusory statement of subjective belief, so Applicant respectfully submits that the Office Action has not provided objective evidence for a suggestion or motivation to combine the references.

Because the references do not show motivation to combine, the 35 USC § 103(a) rejection is not supported. Even if combined, because the cited references do not show every element of Applicant's independent claims, a 35 USC § 103(a) rejection is not supported by the references. Reconsideration and withdrawal of the rejection is respectfully requested with respect to Applicant's independent claims 19, 22, 27, 30, 33, 37, and 41. Additionally, reconsideration and withdrawal of the rejection is respectfully requested with respect to the remaining claims that depend therefrom as depending on allowable base claims.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6944 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743


Respectfully submitted,

GARY R. GILLIAM

By his Representatives,

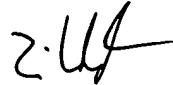
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